

1 We have a number of reasons for preparing this HSW EIS. Foremost is our need to treat and dispose
2 of the waste we are generating from ongoing Hanford cleanup operations, including retrieval of some of
3 our own buried waste. We also support cleanup and early closure of other DOE sites across the country.
4 Just as we were during the days of nuclear weapons production, Hanford is connected to and dependent
5 on other sites.
6

7 For example, Hanford will send its high-level waste (HLW) and spent nuclear fuel (SNF) to a
8 national geologic repository, which has been approved by Congress for development at Yucca Mountain
9 in Nevada. In addition, we are now sending our TRU waste to the Waste Isolation Pilot Plant in
10 New Mexico and have sent all of our usable uranium to the Portsmouth Site in Ohio. Hanford has long
11 received LLW, MLLW, and TRU waste from offsite sources. The *Waste Management Programmatic*
12 *Environmental Impact Statement* (WM PEIS) Record of Decision issued in February 2000 designated
13 Hanford as one of the disposal sites for LLW and MLLW from around the DOE complex. We are
14 currently accepting LLW from various DOE sites and MLLW from the U.S. Navy. Hanford is also
15 receiving TRU waste from “small-quantity” sites for certification and eventual transport to the Waste
16 Isolation Pilot Plant. This HSW EIS considers waste volumes from “Hanford Only” waste and two
17 additional offsite waste volumes. It analyzes the potential environmental impacts associated with various
18 alternatives for storing and disposing of both existing and offsite waste at Hanford.
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20 Solid radioactive waste activities at Hanford have been evaluated in a number of previous Hanford
21 National Environmental Policy Act (NEPA) documents. This HSW EIS updates the evaluations of a
22 number of waste management options, including whether to build a new facility to treat waste or modify
23 an existing structure. We also evaluate alternative sizes and designs of disposal facilities, including
24 whether to use lined or unlined trenches. In addition, if multi-use disposal facilities are operationally and
25 environmentally desirable, we considered alternative locations for such facilities. We have used the
26 detailed analysis performed within this HSW EIS combined with previously performed analyses from
27 other NEPA documentation, Comprehensive Environmental, Response, Compensation and Liability Act
28 (CERCLA) decision documents, and other DOE sources to show how the HSW EIS alternatives fit into
29 the overall Hanford cleanup.
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31 While we understand some readers wanted the more detailed discussions found in other documents,
32 we believe that the readability of this document is enhanced by not repeating all of these discussions here.
33 We provided hard copies, web links, compact disks, etc. for readers interested in the other analyses
34 referred to or incorporated by reference in this HSW EIS. Material incorporated by reference is briefly
35 summarized. All references cited in this EIS are available in the DOE public reading rooms. If you are
36 having difficulty obtaining a specific reference, please contact our HSW EIS document manager
37 (identified on the cover sheet) for assistance. We appreciate your taking the time to learn about the
38 important issues addressed by this document and helping us make the best decisions we can on waste
39 management at Hanford.
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41 **S.1 Purpose and Need for Agency Action** 42

43 We need to provide capabilities to continue, or modify, the way we treat, store, and/or dispose of
44 existing and anticipated quantities of solid LLW, MLLW, TRU waste, ILAW, and melters at the Hanford

1 Site. These capabilities are needed to protect human health and the environment while enabling us to
2 clean up Hanford and assist other DOE sites in completing their cleanup programs. Our proposed actions
3 will allow us to comply with local, State, and federal laws and meet other legal obligations such as the
4 Hanford Federal Facility Agreement and Consent Order (the Tri-Party Agreement).

5
6 To address our anticipated needs for waste management capabilities, we propose to

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- 8 • continue to operate our existing treatment, storage, and disposal facilities
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- 10 • develop additional capabilities both to treat MLLW and to certify TRU waste for disposal at the
- 11 Waste Isolation Pilot Plant in New Mexico
- 12
- 13 • construct additional disposal capacity for LLW, MLLW, ILAW, and tank waste treatment plant
- 14 melters
- 15
- 16 • close onsite disposal facilities and provide for post-closure stewardship of disposal sites.
- 17

18 Alternatives for accomplishing DOE's proposed action, along with an analysis of potential
19 environmental impacts, are detailed in this revised HSW EIS. The No Action Alternative is also
20 evaluated as required by NEPA. Through this analysis, we will have the foundation to decide whether to
21 use or modify existing Hanford facilities, build new facilities, or use offsite facilities.

22 23 **S.2 Background**

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25 The Hanford Site (Figure S.2) was established in 1943 as part of the World War II nuclear weapons
26 production effort called the Manhattan Project. Through the 1980s, DOE produced plutonium in nine
27 nuclear reactors along the Columbia River. In 1988, we stopped plutonium production and shifted our
28 mission to cleanup. Throughout this timeframe radioactive waste management has been an ongoing
29 component of Hanford Site operations.

30 31 **Hanford Cleanup Progress and New Initiatives**

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33 The DOE nationwide cleanup program is an immense and complex effort with many technical,
34 financial, political, and regulatory issues. Hanford is a major part of that program. In the last five years,
35 DOE nationwide has made substantial progress in systematically defining the scope, schedules, and life-
36 cycle costs to meet this challenge as well as in creating an environment for further reform of the cleanup
37 program by accelerating cleanup and risk-reduction actions, improving schedules and cost efficiencies,
38 and driving all sites toward closure. At Hanford, we have made significant progress in our cleanup
39 mission. We have

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- 41 • cleaned up over 200 contaminated soil and waste sites
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- 43 • decommissioned over 500 inactive facilities